

WHAT IS CLAIMED IS:

1. A method for purifying polypeptide monomers from a mixture consisting essentially of said polypeptide monomers, and dimers or multimers of said polypeptide monomers or both dimers and multimers of said polypeptide monomers, wherein the method comprises:

(a) applying the mixture to a cation-exchange or anion-exchange chromatography resin in a buffer, wherein if the resin is cation-exchange, the pH of the buffer is about 4-7, and wherein if the resin is anion-exchange, the pH of the buffer is about 6-9,

(b) eluting the mixture at a gradient of about 0-1 M of an elution salt, wherein the monomer is purified from the dimers or multimers or both present in the mixture, and wherein the monomer yield is greater than 90%, and

(c) recovering the monomer.

2. The method of claim 1 wherein the polypeptide is a serum albumin.

3. The method of claim 1 wherein the polypeptide is anti-IgE, anti-IgG, anti-Her-2, anti-CD11a, anti-CD18, anti-CD20, anti-VEGF, or IgE.

4. The method of claim 2 wherein the serum albumin is bovine serum albumin.

5. The method of claim 1 wherein the ion-exchange resin is a cation-exchange resin.

6. The method of claim 1 wherein the ion-exchange resin is an anion-exchange resin.

7. The method of claim 1 wherein the gradient is linear.

8. The method of claim 1 wherein the gradient is stepwise.

9. The method of claim 1 wherein the elution salt is a sodium salt.

10. The method of claim 9 wherein the elution salt is sodium chloride.

11. The method of claim 1 wherein the gradient is from 0 to 500 mM elution salt.

12. The method of claim 1 wherein the gradient is from 50 to 200 mM elution salt.

13. The method of claim 1 wherein the gradient is from 0 to 50 mM elution salt.

14. The method of claim 1 wherein the polypeptide is an antibody.
15. The method of claim 1 wherein the polypeptide is a monoclonal antibody.